

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Niranjan Damera-Venkata

Confirmation No.:

Application No.:

Examiner: Unassigned

Filing Date: Herewith

Group Art Unit: N/A

Title: GENERATING AND DISPLAYING SPATIALLY OFFSET SUB-FRAMES ON A DIAMOND GRID

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:  
☐ Statement under 37 CFR 1.97(e), or  
☐ a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97 (d) together with a:  
☐ Statement under 37 CFR 1.97(e)(1) or (2), and  
☐ a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$0.00 . At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

☒ Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

☐ A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

"Express Mail" label no. **EV 310 988 043 US**

Date of Deposit **Oct. 30, 2003**

I hereby certify that this is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Commissioner for Patents, Alexandria, VA 22313-1450.

By

Typed Name: Kathryn Bseth

Respectfully submitted,

Niranjan Damera-Venkata

By

Jeff A. Holmen

Attorney/Agent for Applicant(s)

Reg. No. **38,492**

Date: **Oct. 30, 2003**

<b>FORM PTO-1449</b>  <b>LIST OF PATENTS AND PUBLICATIONS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b>  (Use several sheets if necessary)	ATTY. DOCKET NO.	APPLICATION NO.	CONFIRMATION NO.
	200314247-1		
	APPLICANT		
	Niranjan Damera-Venkata		
	FILING DATE	GROUP	
	Herewith		

## REFERENCE DESIGNATION

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	1A	4,662,746	May 5, 1987	Hornbeck	
	1B	4,956,619	Sept. 11, 1990	Hornbeck	
	1C	5,061,049	Oct. 29, 1991	Hornbeck	
	1D	5,083,857	Jan. 28, 1992	Hornbeck	
	1E	5,490,009	Feb. 6, 1996	Venkateswar et al.	
	1F	5,689,283	Nov. 18, 1997	Shirochi	
	1G	5,842,762	Dec. 1, 1998	Clarke	
	1H	5,897,191	Apr. 27, 1999	Clarke	
	1I	5,978,518	Nov. 2, 1999	Oliyide et al.	
	1J	6,025,951	Feb. 15, 2000	Swart et al.	
	1K	6,104,375	Aug. 15, 2000	Lam	

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION DATE	NAME OF PATENTEE OR APPLICANT	Pages/Columns/Lines Where Relevant Passages/Figures Appear	Check if Translation attached
	1L	EP 1001306A2	May 17, 2000	Olympus Optical Co.,		X
	1M					
	1N					
	1O					
	1P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	1Q	L.M. Chen and S. Hasagawa, "Visual Resolution Limits for Color Matrix Displays", Displays, Technologies, and Applications, Vol. 13, pp. 221-226, 1992.
	1R	A. Yasuda et al., "FLC Wobbling for High-Resolution Projectors", Journal of the SID 5/3 1997, pp. 299-305.
	1S	T. Tokita et al., "P-108: FLC Resolution-Enhancing Device for Projection Displays", SID 02 Digest 2002, pp. 638-641.

EXAMINER

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FORM PTO-1449

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	2A	6,104,375	Aug. 15, 2000	Lam	
	2B	6,141,039	Oct. 31, 2000	Poetsch	
	2C	6,184,969	Feb. 6, 2001	Ferguson	
	2D	6,219,017	Apr. 17, 2001	Shimada et al.	
	2E	6,239,783	May 29, 2001	Hill et al.	
	2F	6,243,055	Jun. 5, 2001	Ferguson	
	2G	6,313,888	Nov. 6, 2001	Tabata	
	2H	6,384,816	May 6, 2002	Tabata	
	2I	6,393,145	May 21, 2002	Betrissey et al.	
	2J	2003/0090597	May 15, 2003	Katoh et al.	
	2K	4,373,784	Feb. 1983	Nonomura et al.	

## FOREIGN PATENT DOCUMENTS

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	2L					
	2M					
	2N					
	2O					
	2P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	2Q	L.M. Chen "One-Panel Projectors", pp. 221-226. Date unknown.
	2R	U.S. Patent Application Serial No. 10/213,555, filed on August 7, 2002, entitled "Image Display System and Method".
	2S	U.S. Patent Application Serial No. 10/242,195, filed on September 11, 2002, entitled "Image Display System and Method".

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## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	3A	4,811,003	Mar. 1989	Strathman et al.	
	3B	5,146,356	Sep. 1992	Carlson	
	3C	5,317,409	May 1994	Macocs	
	3D	5,557,353	Sep. 1996	Stahl	
	3E	5,912,773	Jun. 1999	Barnett et al.	
	3F	5,920,365	Jul. 1999	Eriksson	
	3G	5,953,148	Sep. 1999	Moseley et al.	
	3H	6,067,143	May 2000	Tomita	
	3I	6,118,584	Sep. 2000	Van Berkel et al.	
	3J	6,522,356	Feb. 2003	Watanabe	
	3K	6,393,145	May 2002	Betrissey et al.	

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	3L					
	3M					
	3N					
	3O					
	3P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

3Q	U.S. Patent Application Serial No. 10/242,545, filed on September 11, 2002, entitled "Image Display System and Method".
3R	Candice H. Brown Elliot et al., "Color Subpixel Rendering Projectors and Flat Panel Displays"; SMPTE Advanced Motion Imaging Conference; February 27-March 1, 2003; pgs. 1-4.
3S	U.S. Patent Application Serial No. 10/631,681, filed on July 31, 2003, entitled "Generating and Displaying Spatially Offset Sub-Frames".

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EXAMINER INITIAL		DOCUMENT NUMBER	PUBLICATION DATE	NAME	Pages, Columns, Lines Where Relevant Passages or Figures Appear
	4A	2003/0076325	Apr. 2003	Thrasher	
	4B				
	4C				
	4D				
	4E				
	4F				
	4G				
	4H				
	4I				
	4J				
	4K				

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	4L					
	4M					
	4N					
	4O					
	4P					

## OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.) .

4Q	U.S. Patent Application Serial No. 10/632,042, filed on July 31, 2003, entitled "Generating and Displaying Spatially Offset Sub-Frames".
4R	U.S. Patent Application Serial No. 10/672,845, filed on July 31, 2003, entitled "Generating and Displaying Spatially Offset Sub-Frames".
4S	U.S. Patent Application Serial No. 10/672,544, filed on July 31, 2003, entitled "Generating and Displaying Spatially Offset Sub-Frames".

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